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ABSTRACT

Fifteen research reviews pertain to vocational education accreditation and evaluation organized under these topics: (1) Accreditation, discussing curriculums in postsecondary institutions, (2) Program Evaluation, in vocational agriculture, business education, manpower training, and trade and industrial education, (3) Local Evaluations, reporting a cost-effectiveness study, evaluation systems, and a program analysis questionnaires, and (4) Other Studies, relating the role of the teacher, a system for state evaluation, industry-education advisory committees, and student teaching in home economics. "Plain Talk" discusses research synthesis and interpretation to the profession. In addition to the studies reported in this issue, 40 additional bibliographic citations on the topic are included. (DM)

RESEARCH VISIBILITY

SYNTHESIS / APPLICATION / DISSEMINATION

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Accreditation and Evaluation

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PREFACE

Evaluation and the advisory process

THE PROFESSIONAL QUIP which is frequently overheard these days, "What is needed in evaluation is more evaluation on evaluation," despite its tail-chasing nature is not without strong merit. Periodically, *Research Visibility* has reported research and development activities of this nature. (See May 1968 and May 1969 issues.) This month, *RV* once again reports on the subject of evaluation with deliberate twist of implications of the evaluative process for advisory committees and councils—more broadly the cooperation of industry and education in appraisal. Relatively few studies highlight these advisory implications; in exercising its *synthesis* prerogative, *RV* holds up as exemplary a few efforts of this nature.

Accreditation—formalizing the evaluative process. The topic and activity in *accreditation*, at least as its appears (or fails to appear) in research literature, almost go by default. This is not to say that there is nothing afoot in accreditation. Far from it! One of the most encouraging new ventures to shape up in recent months is the AVA's project (with cooperation of the Office of Education and high-level involvement of numerous groups and agencies), *National Study for Accreditation of Vocational-Technical Education.*

This study will go forth in the context of research and development, and certainly not in the sense of creating an AVA accrediting agency or *accreditor*. To those who are even vaguely familiar with the monumental problems of vocational accreditation, the effort is imperative and long overdue.

The project is especially fortunate to have as its director, Lane C. Ash, former assistant director of the Division of Vocational and Technical Education of the Office of Education in Washington, D. C. As a life-long vocationalist with experience on many levels, Mr. Ash needs no introduction to professionals or programs. Inasmuch as the AVA project embraces all aspects of accreditation in all types of programs of vocational and technical education, the *RV* readership should be sensitive to its operation and importance, and take the necessary initiative to make its input. Details of the project should be requested from Mr. Ash at AVA headquarters.

Place of advice-giving in evaluation. Regardless of the extent to which advisory groups of many natures have been involved over the years in vocational education on all levels, the die is cast for their current role and that of the future. This fact is implicit in the general spirit of current legislation on many fronts; it is explicit in vocational education legislation. The prescription is not palatable to many administrators, moreso it is downright threatening to others.

Nonetheless, and in deference to professional opinion, the advice-seeking and advice-giving are here with more than a little degree of finality. One interpretation indicates that the advisory has become administrative and hence spills over into the making of policy. On the other hand, there is little escape from the professional question, "Why is the advisory counsel stipulated in law and regulation?" Professionals in every function and on every level of vocational and technical education can afford more than speculation with their answers.

In this month's report, at least three investigators (Samuel Burt, Harold Byram and the Rhode Island Staff) make distinctive efforts to employ the advisory function in appraisal. Many of the other studies report implications of involvement and various advantages of including advisory groups, at least on a team basis. No doubt, Samuel Burt, of the W. E. Upjohn Institute for Employment Research, is the ardent advocate of the industry-education cooperation theme. *RV* readers with special interests in this topic should request additional materials of Mr. Burt at the Institute, 1101-17th St., N.W,. Washington, D.C. 20036. Mr. Burt's ideas go far beyond the realm of theory as a result of his experiences and field testing in several of the States.

As a prelude to serious thought and professional activity in *accreditation*, careful review should be made of the Messersmith and Medsker study which is briefly abstracted this month. Basic problems and issues are examined, the role of the professional association is explored, and data from a survey of agencies approved by the National Commission on Accrediting are given.

Not unlike the formalization of the role of advisory groups in vocational education programs, evaluation for accreditation purposes will persist, become more pronounced and eventually generate clout on the teaching, coordination, administration, guidance and counseling, curriculum, research, and other aspects of the vocational and technical program. The clout will not miss the advisory process.

Curricula in Postsecondary Institutions

Problems and Issues in Accreditation by Specialized Agencies of Vocational-Technical Curricula in Postsecondary Institutions. Lloyd E. Messersmith and Leland L. Medsker. The Center for Research and Development in Higher Education. University of California, Berkeley. 1969.

The increasing number of postsecondary institutions providing vocational-technical courses leading directly to employment in the past few years has created problems relating to the accreditation of these institutions. Although the National Commission on Accrediting was established in 1949, little attention was given to the accreditation of vocational institutions, and professional associations have therefore begun to concern themselves with this function.

Problems arising from these activities are reflected in questions attacked by this study:

1. To what extent are specialized agencies now approving curricula in two-year colleges?
2. Is there evidence that specialized accreditation either inhibits or promotes the development of occupational programs?
3. Does the specialized agency have concerns related to standards and the level of training given by institutions?

For purposes of the study, materials were collected which described activities of accrediting agencies, legislation on the subject was reviewed, interviews were conducted, and questionnaires were developed and administered. The survey covered 43 two-year institutions, 5 professional associations and 6 regional associations.

Recent history and current status of specialized accreditation are delineated by the report in order to view the problems associated with this accrediting activity in the proper framework. Starting with a 1961 request by the American Association of Junior Colleges that the National Commission on Accrediting study accreditation of junior colleges by specialized agencies, and continuing through the problems engendered by the implementation of the Vocational Student Loan Insurance Act of 1965, the fears of two-year vocational institutions for their institutional autonomy are sketched out. The need for positive structuring of the accrediting process is expressed.

The accrediting function of the professional association is examined in depth, with a review of literature on the subject. A study made by the National Commission on Accrediting in 1961 is viewed for its present implications, and current accrediting activity by specialized groups in the community college is considered.

A survey in January 1967 of agencies approved by the National Commission on Accrediting found that of 17 agencies reporting, 5 were engaged in community-junior college level accrediting activities at that time, 4 had discussed the issue but had no plans for engaging in this activity within the next 5 years, and 8 had not even discussed the possibility of engaging in accrediting activity at the two-year college level.

Only about 12 percent of junior colleges listed in the 1967 *American Association of Junior Colleges Directory* had programs which were accredited by specialized accrediting agencies. Despite this low level of specialized accreditation activity, the American Association of Junior Colleges continues to oppose specialized accreditation at this level and to lean toward acceptance of only regional accrediting agencies.

Another activity of the study, that of determining the views of institutions regarding accrediting activities of specialized agencies, was carried out through administration of a specially developed questionnaire. The instrument was administered to three types of institutions: comprehensive community colleges with regional accreditation only, comprehensive community colleges with both regional and specialized agency accreditation, and special purpose institutions (technical institutes) with specialized accreditation.

Data gathered from the responses to the questionnaire indicated that the overall group did not feel that their regional accrediting association was appropriately organized and staffed to evaluate technical programs. Criteria used in evaluating vocational-technical programs were generally not considered appropriate. A majority of respondents agreed that institutions, such as area vocational schools and technical institutes, which are not presently eligible for accreditation, should be accredited by regional accrediting agencies. It was indicated that separate program evaluation carried out by regional agencies was the most desired course.

Several particularly important issues were studied, using data gathered during the project.

Issue Number I was, "To what extent are professional associations now approving curricula in community colleges? Has there been an effort on the part of these groups to accelerate their accrediting activity?" The answers to this question were derived from data gathered in the January 1967 survey and, summarized, were that specialized accreditation in two-year colleges had declined and that it was not about to be accelerated.

Issue Number II was, "Is there any evidence which indicates that specialized accreditation either inhibits or promotes the development of occupational programs?" It was not felt that accrediting agencies helped in program development, but it was acknowledged that better students are more attracted to an accredited program.

Issue Number III was, "Is there observable change in institutional autonomy as measured by modification of objectives or stated goals when specialized accrediting agencies are allowed to prescribe conditions or curricular patterns regarding program direction and/or staff utilization?" The study indicated that more autonomy is lost in complying with federal legislative requirements than in complying with accrediting agency specifications.

Issue Number IV was, "Do specialized agencies request conformance to conditions or standards which tend to place the institution at odds

with its own goals in such areas as student admission, performance of enrollees or employment of staff?" It was concluded that specialized accreditation was only one of the many reasons for which an institution might come at odds with its own goals.

Issue Number V was "To what extent are regional accrediting agencies assessing vocational-technical programs in their evaluation of the total institution?" It was decided that little attention was given to specific programs in the overall accrediting assessments made by regional agencies. It was agreed that the ideal situation would be for the regional agency to revise its criteria for evaluation and to add vocational experts to its staff for evaluation purposes.

Issue Number VI was determination of the magnitude and direction of the conflict among various forces in higher education. Indications show that the two types of accrediting agencies, regional and specialized, seem to reinforce each other, and a methodology should be devised which would allow the two to facilitate each other. Such a cooperative effort would also seem to reduce the workload now being duplicated in many instances.

Topic Two: PROGRAM EVALUATION

See Bibliography for Information on availability of complete studies

. . . in Vocational Agriculture

Evaluation of the Effectiveness of Using Specialized Instructors in Providing Occupational Training for Industrial Jobs for High School Vocational Agriculture Students. Roy W. Roberts, et al. University of Arkansas, Fayetteville. 1965.

This limited project was initiated as a result of problems encountered by senior vocational agriculture students of Magnet Cove, Arkansas, High School in finding training-related jobs after graduation. High school vocational courses did not prepare these young men for agriculturally related jobs such as agricultural mechanics. In order to change the curriculums to include such courses, it was necessary to find persons qualified to instruct in these areas.

The regular agriculture teachers were unfamiliar with the subjects, and so an experimental program was established wherein three special instructors employed in local industries taught for one hour each day for a six-week period. The special courses which they taught were blueprint interpretation, electricity and welding.

Nine high school seniors at the school were enrolled in these courses. The study centered around them was designed to determine whether or not (a) this training would assist the young men in making vocational choices, (b) the training would increase employment stability; (c) the apprenticeship training period would be reduced as a result of this training, and (d) the school dropout level would be reduced as the result of this training.

Evaluation and results of the experiment indicate success, although more time and follow-up surveys are necessary to determine whether or not some of the more long-term goals were met. University of Arkansas consultants found the course content and methods of instruction to be satisfactory, and officials of local industries expressed approval of the project methods. Students were interested and instructors were satisfied with student progress. The course reduced school dropouts and assisted students in making firm choices of occupations.

It was felt that this experiment might well be tried successfully in other schools with similar problems.

. . . in Business Education

The Status of Cooperative Office Education Programs in Michigan 1967-1968. Elaine Uthe and Betty Schroeder. Department of Secondary Education and Curriculum, College of Education, Michigan State University, East Lansing, Mich. April 1969.

This study was conducted to determine the status of cooperative office education programs in Michigan so that teacher-coordinators might compare their programs with others in the state and to enable teacher-educators to identify major problem areas in order to more adequately prepare teacher-coordinators.

A questionnaire mailed to 246 vocationally reimbursed cooperative office education programs in Michigan during the 1967-1968 school year yielded 175 returns which were compiled for this report. Possible problem areas which may be encountered by beginning teacher-coordinators were listed as: "(1) coordination of students on the job, (2) placement of student-learners, (3) instruction in the related class, (4) relations with the business faculty, (5) relations with the faculty in other areas, and (6) relations with the school administration."

Recommendations resulting from this study include that of formulating clear-cut distinctions between cooperative programs and work-study programs through development of criteria for each program. It was recommended that criteria for the cooperative office education program should include guidelines regarding:

"1. The related instruction portion of the cooperative program in terms of instructional objectives, recommended instructional materials and methods to maintain close correlation of job experiences and in-school learning experiences, and suggested facilities;

"2. The coordination portion of the cooperative program in terms of numerical ratio of student-learners to teacher-coordinator in order to provide adequate coordination time to accomplish program objectives;

"3. The qualifications of the teacher-coordinator to insure mastery of subject matter, ability to deal effectively with students and adults in various positions, and professional interest in the advancement of students and program, and

"4. The relationship of the cooperative method to the entire business program."

In addition, realistic experiences for future teacher-coordinators should be provided during their period of training, and prospective and beginning teacher-coordinators should have opportunities to attend conferences and meetings of teacher-coordinators. Supervision and assistance

should be provided the beginning teacher-coordinator during the first year by State Department of Education consultants or experienced teacher-coordinators.

Use of criteria for development and evaluation of programs is suggested as being necessary to the building of effective cooperative office education programs.

A Study of the Effectiveness of Summer Data Processing Institutes for Business Teachers. Lewis E. Wall. College of Business, Colorado State University, Fort Collins, Colorado. Aug. 31, 1967.

In order to assist teachers in acquiring the skills and knowledge necessary for teaching business data processing courses, five Summer Institutes in Business Data Processing for Teachers were held during 1963, 1964 and 1965. During all three years a first-year program was conducted, and a second-year program was conducted during the last two years.

The evaluations conducted during this project were designed to determine if the institutes have helped to alleviate the teacher shortage in business data processing, to obtain the participants' opinions as to the strengths and weaknesses of the institutes, to determine the effectiveness of the institutes in teacher preparation, to determine factors which may aid or deter teachers in continuing on as data processing teachers, and to evaluate the possible shortage of data processing teachers.

Results of data gathered from questionnaires administered to participants following their attendance at an institute or institutes demonstrated that the institutes were effective in alleviating the data processing teacher shortage and that they were effective in teaching these specialized courses to the teachers.

A questionnaire was also administered for determining the participants' views regarding the strengths and weaknesses of the institutes. Participants generally expressed satisfaction with the facilities used in the institutes (physical factors of the meeting rooms and adequacy of equipment). They also felt that an adequate number of courses was offered, that the content of the courses was adequate and that it was not too technical.

The number of instructors was generally considered adequate, although they felt that more "hands-on time" in the laboratories was needed and that scheduling of classes could have received a little more attention. The staff of the institutes was not endorsed as strongly as other aspects of the institutes. In particular, participants expressed a desire to have instructors devote more class time to teaching techniques. Methods of instruction used were given favorable ratings, and much enthusiasm was expressed for the subject matter.

More hesitation was expressed regarding whether participants felt qualified to teach data processing courses following participation in an institute, and even less confidence was expressed in their ability to organize a data processing program in their own schools. Questionnaire results indicated a desire for opportunities for more contact with other participants and with instructors.

Factors of age, prior work experience, prior educational experience, sex, degrees, and whether receiving subsistence while attending an institute were not found to have any effect on whether or not a participant persisted as a data processing teacher for a period of time.

A survey of the needs for data processing teachers in various types of institutions revealed that the demand for such teachers will become more pressing over the years, and that a great competition for teachers in this field will ensue, with salaries for competent persons being thereby increased.

Based on the findings of this study, it was recommended that the institute project be reactivated under Federal Government sponsorship. Also, assistance should be given to colleges in the development of business data processing teacher training programs.

. . . in Manpower Training

The AMIDS Program: An Appraisal of the First Six Months. William A. Broadbent and Bruce A. Reinhart. Division of Vocational Education, University of California, Los Angeles. 1969.

This report is the result of an appraisal carried out by the Research Center of the Division of Vocational Education, University of California, on the first six months' operation of the Area Manpower Instructor Development Sites (AMIDS). The appraisal consisted of two parts: a questionnaire sent to all participants in AMIDS seminars and interviews of approximately 10 percent of these persons. Data obtained by these two methods are included in the report. It was found that the most significant data were obtained through the interviews, and future evaluations are planned with only the interviewing technique being used.

AMIDS workshops were established in three cities, Detroit, Washington and Los Angeles, in 1968 for the purpose of increasing "the instructional competency and general awareness of the nature of relevant federal employment programs among Manpower instructors." The Research Center appraisal of the first six months' operation of the workshops and seminars of the program focused on characteristics of the participants and their reactions to the program.

A summary of the findings and conclusions indicates that although nearly two-thirds of the participants in the AMIDS seminars were instructors, a number of supervisory personnel too large to be justified in an instructor-oriented program had participated. A change of program emphasis may be indicated due to this fact.

It was found that instructors desired instruction in "job-seeking techniques" so that they might assist their students with placement. Another area of desired instruction was in dealing with the special problems of physically and emotionally handicapped students.

The most enthusiastic evaluations of the AMIDS workshop programs were received from participants having the following characteristics: (a) minority race/ethnic background, (b) relatively low level of formal education, (c) foreign language facility, (d) instructor role in Manpower, and (e) occupational instructor position. Obviously, the AMIDS program is meeting the needs of these people.

However, these social and demographic types are not the only ones for which the program is in operation, and much less enthusiasm and appreciation was expressed for the program by persons with the follow-

ing characteristics: (a) Caucasian race/ethnic background, (b) relatively high level of formal education, (c) English language facility only, (d) supervisor-administrator role, and (e) nonoccupational instructor position. It is suggested that separate workshops with varied curriculum be developed and offered for these persons.

Although two of the major subject areas covered in the AMIDS seminars were "understanding of the program" and "sympathy towards students," these remain as the greatest teaching weaknesses encountered by participants. At none of the teaching sites did participants feel their AMIDS experiences had resulted in improvement of their teaching skills.

In fact, "participants were generally unable to cite any specific teaching behavior that they had changed since attending AMIDS," and most felt that something other than the workshops had aided their inservice growth. "The only formal presentation by staff which seems to have made much of an impression was that devoted to discussing the Manpower Development and Training Act itself."

Responses from participants indicated that they felt their instructors and discussion leaders were competent and interesting. But, greatest benefits were derived from "sharing ideas and experience with other participants."

A result of these findings was the formulation of a set of recommendations for improvement of the AMIDS program. First, after redefining the goals of the AMIDS workshops, it should be determined whether or not large numbers of non-instructional personnel should continue to be invited as participants. If it is deemed desirable to do so, then the workshops should be made relevant to their needs, perhaps through establishment of separate workshops.

More emphasis should be placed on presentations and discussions covering "job-seeking techniques and trainee employment processes," and specialists should be enlisted to discuss problems encountered in dealing with physically and emotionally handicapped trainees.

In order to provide more meaningful instruction in specific teaching behaviors, it is suggested that "the AMIDS program should be reoriented towards identifying more accurately present weaknesses in the instructional methods of participants."

Finally, it is recommended that more attention and time should be devoted to discussions of basic social values and relevant vocational research findings which would help improve instructor effectiveness and the success of the entire Manpower program.

The AMIDS questionnaire instrument and the instrument which was devised for interviewing selected participants are included as appendices to this report.

Benefit-Cost Analysis of TAT Phase I Worker Training. Frederick C. Kirby and Paul A. Castagna. Training and Technology Project, Oak Ridge, Tennessee. July 1969.

This study was conducted for the purpose of determining costs and benefits both to the individual and to the Federal Government as a result of the time and resources invested during the Training and Technology Project Phase I. (See "Training and Technology: A Demonstration Manpower Development Project. Worker Training Program, Phase I" in *RV*, September 1969.)

For purposes of the study, 70 former TAT trainees were examined in comparison with 70 persons who had passed all tests for entrance to the TAT program but were not selected because of lack of space in the program. The benefit to the individual as a result of training was computed by comparing the amount of income he would have earned had he worked instead of entering the training program to the increased rate of income he will receive as a result of the training.

It was determined that, "for each dollar of income foregone by the trainee, he received $2.60 during his first year of post-training employment." Financial benefit to the Federal Government is based upon the amount spent on each trainee compared with the amount of estimated increase in income taxes to be received from each trainee in his lifetime. This return to the Federal Government was computed to be 20.5 percent, assuming a 3 percent annual rate of income growth, and 25.7 percent assuming a 6 percent rate (due to an annual inflation rate of 3 percent).

It is important to consider other returns on the investment of the Federal Government, such as having fewer numbers of persons on the welfare rolls, and the higher social status of the population. In addition, TAT provided the labor market with needed skills. These aspects, of course, could not be computed into the cost-benefit analysis, but should be considered in evaluating the overall value of the TAT program.

. . . in T&I Education

Development and Utilization of a National Vocational-Technical School Achievement Testing Program Using the Printing Trades as a Pilot Area. Dennis McFadden. Ohio Trade and Industrial Education Service, Division of Vocational Education, Columbus, Ohio. August 1967.

Preliminary investigations having noted the lack of instruments for evaluating the level of occupational preparation and for evaluating the effectiveness of various training programs offered, this project attempted to develop and validate tests for assessing the achievement of students in training programs in the printing trades. Such an evaluation instrument was deemed necessary because of the high cost of such programs at the secondary level, and the great waste which could result from ineffective programs.

The design of this project consisted of the development of an achievement test to be administered to twelfth grade printing trades students for measuring their technical knowledge and skills related to this trade. In addition, a job performance measure was developed for administration to graduates of printing courses who became employed in the printing trades. This test, given to the same students as the first, was administered eight to ten months after graduation. Results from the two sets of tests would be compared and used as an index for evaluation of the training program itself.

Specifically, the project attempted to measure student achievement by first defining "student achievement representative of the educational objectives for a vocational printing course at the twelfth-grade level," then selecting existing measures of

this achievement and developing additional ones, and finally by providing national standardization of an achievement test through administration of it to a group of students nearing completion of a twelfth-grade printing course.

Employee job performance was to be measured by first defining the mean job performance of recently employed graduates of the courses, then developing reliable instruments for measuring job performance, and measuring the job performances of those students who had been originally tested and who were now employed in the printing trades. The measures of achievement and job performance thus obtained would then be related to provide an index for evaluating the vocational printing trades course.

Through examination of the curriculums offered in the printing trades in secondary schools in Ohio, and through conferences with representatives of the International Graphic Arts Education Association, it was determined that two areas of achievement should be measured: knowledge and understanding of fundamental printing operations and ability to solve problems which arise in the printing industry.

For measurement of the knowledge and understanding category, the "Ohio Printing Achievement Test," a test already existent in multiple choice form, was adopted. Problems arose in devising a test of the second area of achievement which would meet requirements of administration time, adequate standardization and objective scoring. A "recognition type" of measurement was found to be usable in this area, and the "Ohio Printing Performance Test" was developed by the project staff for use in this area of achievement measurement. Both of the tests were given field trials.

In the second phase of the study, which was devoted to developing a means of assessment of job performance, behavior traits of job performance were selected through conferences with graphic arts industry representatives. The traits selected—dependability, safety, quantity, care of tools, resourcefulness, neatness, accuracy, industriousness, reaction to criticism, adaptability, communication skills, organization of work, technical knowledge, and job skill—were assessed for each vocational graduate who was now employed in the printing trades.

It was concluded that "the procedures, methods, and assumptions employed were adequate in providing for the development of valid and reliable achievement measures of vocational printing at the twelfth-grade level of instruction." Use of these achievement measures is considered possible in determining the effectiveness of the instruction, thereby "allowing for the improvement and maintenance of quality education in sound vocational programs."

Appendixes to the report include a suggested printing course outline, a job performance rating form, and a questionnaire administered to printing trades course graduates.

The Training of Tool and Die Makers. Morris A. Horowitz and Irwin L. Herrnstadt. Department of Economics, Northeastern University, Boston, Mass. September 1969.

Tool and die makers in the Metropolitan Boston area were selected for testing of a methodology for determining "the combination or combinations of education, training and experience which were most likely to yield highly qualified workers in a specific occupation." This occupation was chosen because of its importance to manufacturers and the short supply of qualified workers in it.

Of the 400 tool and die makers from 53 establishments in the area, most had followed one of six basic training paths. The percentage distribution of workers in each of these paths was:

On-the-job training	22.5%
Vocational high school	22.2%
Picked-up-the-trade	15.8%
Apprenticeship	14.2%
Vocational high school plus on-the-job training	11.2%
Vocational high school plus apprenticeship	9.8%
Miscellaneous	4.2%

It should be noted from these figures that the paths followed were diverse and that even the most formal methods of training were informal. Also, this is not an easily acquired trade: formal training had been taken by more than 80 percent of those interviewed. Subjects most often studied for use in this job were trigonometry, blueprint reading, use of measuring instruments, heat treating, machine theory, mechanical drawing, and tool design. These subjects were either studied outside or acquired on the job.

The effectiveness of each training path was evaluated in terms of "(1) the performance ratings given to the men by their supervisors, (2) the length of time spent in training, and (3) the amount of time the tool and die makers estimated it took them, from the start of training, after their formal schooling, to become all-around competent craftsmen, and to be classified initially as toolmakers and diemakers."

Differences in performance ratings among training paths were not statistically significant, although workers in the "vocational high school combined with apprenticeship" and the "vocational high school" paths had a somewhat greater proportion of better-than-average ratings. Neither apprenticeship, nor taking of part-time courses, nor even the failure to finish training seemed to affect the ratings.

This similarity of ratings for all training paths may be attributed to "the importance of innate ability and working experience, differences in the quality of training within paths, and the likelihood that successful training has characteristics that are unrelated to the formal structure of programs." Also, there may be an even distribution of trainees with like abilities entering each training path.

Average lengths for training periods varied for the different training paths. For example, "vocational high school" averaged 2.7 years, "on-the-job training" averaged 2.9 years, and "apprenticeship" averaged 3.4 years. The longest training period was in the path of "picked-up-the-trade" which lasted an average of 7.3 years.

Many more years of experience after training were required before men felt themselves competent craftsmen; a minimum of six years before they considered themselves competent toolmakers, and a minimum of eight years to be a competent diemaker. Individuals with vocational high school combined with apprenticeship required the shortest amounts of time before considering themselves competent all-around craftsmen.

The shortest routes to receiving classification as a toolmaker or a diemaker were through the paths of "vocational high school" and "vocational high school and apprenticeship." The foremen's ratings of their workers indicated that longer periods of training time did not contribute to performance.

Effectiveness of the various training paths was measured through foremen's ratings, the time needed to become an all-around craftsman, and the time needed to become classified as a toolmaker or diemaker.

The path of "vocational high school and apprenticeship" scored well on most of these measures of effectiveness. None of the paths was poor in all or most areas. It was found to be very difficult to determine the reasons for a good rating: age, years in the trade, years of job experience, amount of training, training path followed, etc., did little to back up a man's rating. Discussions with those in the trade point more to factors such as inherent talent for and interest in tool and die making.

An extension of the study was devoted to the questions of breadth of craftsmanship and the problems encountered in the transition from school to work in these trades. Certain paths of training were found to contribute more to breadth than others, but only "apprenticeship" in the case of diemaking was statistically significant. The more structured courses appeared to contribute more to the breadth of a man's skill. Time spent working at the trade also had some effect on the breadth of skill.

Because of the labor market demand for tool and die makers, students of all abilities and from all types of schools found employment, although those who had better-than-average abilities and who came from the better schools were more sought after. The boys most often located their own jobs, bypassing the inadequate occupational counseling services or using them as a last resort.

The conclusion of this study is that "comparing workers' training with foremen's ratings of job performance is a useful way to evaluate the effectiveness of particular training patterns, particularly if done on a longitudinal basis that includes a detailed description of the exact content and nature of a man's training and later work experience." In addition, a listing is made of the more significant implications of the findings of the study for government, training programs, secondary schools, unions, employers, individuals, and further research.

Topic Three: LOCAL EVALUATIONS

See Bibliography for Information on availability of complete studies

Cost-Effectiveness Study

A Cost-Effectiveness Study of Vocational Education: A Comparison of Vocational and Nonvocational Education in Secondary Schools. Ernst W. Stromsdorfer, et al. Institute for Research on Human Resources, The Pennsylvania State University, University Park, Pa. March 1969.

This report attempts to answer, through development of an appropriate theoretical framework and obtaining of data relevant to the framework, the question: "Should the United States invest more money in vocational education, given alternative investment opportunities in other educational curricula?" It is expected that the methodology formulated for this study can be used by federal and state agencies in conducting cost-effectiveness studies of education.

The cost-effectiveness method of evaluation was used in order to bridge the gap between evaluations which have centered on expenditures only, and those which have had as their main focus the fulfillment of objectives of various programs. The admission is made in the report that cost-effectiveness analysis has not yet been perfected, and inadequacies are duely noted in order to provide a basis for further research and experimentation. However, it is felt that the current amount of knowledge on cost-effectiveness is enough to begin with, and that this method is much better than decisionmaking through the old methods of "guess and intuition."

Three cities were selected for this study. Two cities have their secondary vocational-technical educational facilities concentrated in a vocational-technical school which is separate from regular academic high schools. The third city also has vocational-academic high schools where students may follow either a vocational or an academic curriculum.

Four main steps were involved in the study: "First, all costs and benefits were identified and representative data were collected. Second, the conceptual difficulties were resolved, where possible, and the appropriate criteria for investment decisions were determined. Third, the data were analyzed by statistical methods, and, by comparing costs and benefits, the return to the investment was ascertained. Finally, other related issues which might affect the analysis were considered." All costs, including marginal, total and average, were measured.

Cost data were obtained for the various city schools and school systems. Data obtained were not uniform enough to make cost comparisons between the cities, but cost-effectiveness analysis was possible with data obtained from two of the cities. Benefit data were obtained through questionnaires sent to a 1,-255 sample of 1959 and 1960 graduates of the high schools. Data on labor market histories, curriculum, sex, race, marital status, city of graduation, IQ measures, and father's education were obtained by this means. A copy of the questionnaire is included as an appendix to the report.

The most complete cost data were obtained from the third city—the one which has not only vocational-technical and comprehensive high schools, but also vocational-academic. Data obtained for this city included: principal salaries, teacher salaries, supervision and clerical salaries, educational supplies, free text and library books, other instructional expenses, operation, maintenance, administration, fixed charges, other services, and capital outlay.

In addition, data were obtained on physical characteristics of: (a) enrollment by grade, for selected

months; (b) median and average class size for selected months; (c) size distribution of classes, by course area, for selected months, (d) size distribution of teachers' salaries by teacher qualification; (e) average daily attendance and average daily membership; (f) number of teachers, and (g) number of classes.

Benefits measured included both labor market benefits and nonmonetary benefits. Labor market benefits are measured by the indices of "money earnings and the percent of time employed out of total time which could be devoted to civilian labor force participation." Variables measured for nonmonetary benefits were "training relatedness of the job or jobs held, overall career relatedness of the job or jobs held, and whether or not knowledge of the job or jobs came mainly from the high school or from some type of on-the-job experience."

Noneconomic variables which indicate the socialization effects of education were also measured. Three of these were: (a) "the number of clubs or organizations of which the graduate is a member at the time he was interviewed," (b) "whether or not the graduate voted in the 1966 primary elections," and (c) "whether or not the graduate voted in the 1964 presidential election."

Two most important tables of data were developed regarding economic benefits: "The Relationship Between Secondary Curriculum and Percent of Time Employed During the Six-Year Post-Graduation Period, by Sex" and "The Relationship Between Secondary Curriculum and Average Monthly Before Tax Earnings During the Six-Year Post-Graduation Period by Sex, in Dollars." (The tables are reproduced below.)

It should be noted that, while costs are generally more easily measured than benefits, the reverse is true for this study. This is due to the lack of usable data related to costs, and it points up the need for more efficient recordkeeping in cost-related matters if cost-effectiveness evaluation is to become effective.

The sample taken for this study implies that "vocational-technical education is an economically worthwhile investment for individuals and for society." However, "considerable refinement" is still needed of techniques used in this study and of the methods of recordkeeping by educational institutions.

Definite conclusions cannot be reached on the basis of this study alone, because of the limited data available from some of the sources. Should further studies arrive at conclusions similar to the preliminary conclusions of this study, however, more concrete conclusions may be reached. Thus far, the only conclusion which can even be provisionally made is that "for two, and possibly all three, of the cities which participated in this study, more funds should be devoted to vocational-technical education relative to non-vocational-technical senior high school curricula."

The Relationship between Secondary Curriculum and Average Monthly Before Tax Earnings During the Six-Year Post-Graduation Period, by Sex, in Dollars

Curriculum	Average Monthly Before Tax Earnings Over the Six-Year Post-Graduation Period			Average Monthly Before Tax Earnings for the First Year After Graduation			Average Monthly Before Tax Earnings for the Sixth Year After Graduation		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Vocational-Academic	419	292	315	324	239	254	482	274	310
Vocational-Comprehensive	476	243	283	354	248	264	556	191	253
General	434	228	326	315	210	260	533	179	347
Vocational-Technical	453	264	309	327	250	268	549	243	317
Academic	417	223	282	269	204	224	506	188	283
Total	444	250	300	316	238	258	536	217	299

The Relationship between Secondary Curriculum and Percent of Time Employed During the Six-Year Post-Graduation Period, by Sex

Curriculum	% of Time Employed Over the Six-Year Post-Graduation Period			% of Time Employed in the First Year After Graduation			% of Time Employed in the Sixth Year After Graduation		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Vocational-Academic	87.9	77.3	79.1	84.4	75.4	77.0	91.7	63.2	68.1
Vocational-Comprehensive	94.9	73.0	76.1	85.5	83.3	83.7	96.8	53.6	61.0
General	91.6	68.7	79.6	81.3	75.1	78.1	95.4	47.0	70.0
Vocational-Technical	93.0	75.5	79.7	84.6	82.9	83.3	97.7	62.6	71.1
Academic	90.9	66.3	73.7	75.2	69.2	71.0	96.9	48.2	62.9
Total	92.4	72.8	77.9	82.1	79.7	80.3	96.8	56.7	67.0

Evaluation Systems

Evaluation Systems for Local Programs of Vocational-Technical Education. Harold M. Byram. Michigan State University, East Lansing, Mich. October 1968.

This study, in which 10 Michigan school systems participated, was made to determine whether schools in the state were able to conduct self-evaluation of their vocational education programs "with emphasis on outcomes and attainment of local objectives, maximizing the use of local personnel and resources, and utilizing consultant leadership and related professional assistance."

A previous project had resulted in a systematic approach to local program self-evaluation which worked successfully in three test school systems. The objectives of this study were to:

1. Test the system further on the local level.
2. Identify new or improved procedures for use in local programs.
3. Establish an environment for personnel to learn evaluation procedures.
4. Delineate the role of consultants in program evaluation.
5. Identify potential research and development centers.

Two members of each school's staff were appointed to constitute a leadership team for working with the project leader. The Michigan State University Research and Development Program in Vocational-Technical Education staff and consultants from the Michigan Department of Education acted in an advi-

sory capacity on the project. Meetings were held to inform participants of the project objectives, to make plans for getting the project underway, and to work with them to identify particular problems needing attention of the project in their school systems.

A three and one-half day workshop and conferences were held in each school to follow up on the workshop in: (a) "setting local project objectives," (b) "developing broad outlines and/or steps in each local project," (c) "planning for the organization of local school staff and resources for evaluation." In addition, local schools were encouraged to conduct their own workshops for preparing local staffs in procedures used in the evaluation system.

Success of the project was analyzed through collections of data from the participating school systems and through interviews with local staff. The evaluation system was demonstrated successfully in nearly all of the participating schools.

Elements relevant to local program self-evaluation were revealed to be: "(a) administrative endorsement and support; (b) a local leadership team; (c) a program of local leadership preservice and inservice training; (d) an evaluation project plan; (e) a staff committee for evaluation; (f) staff time for evaluation; (g) objectives and curricular analysis; (h) advisory committees for assistance in the evaluation; (i) follow-up study of former students; (j) use of consultant help and instructional materials in development and use of evaluation instruments, and (k) adequate reporting of activities."

Suggestions emanating from the successful demonstration of the evaluation system during this project include that of extending the system to other school systems in Michigan and in other states. Use in other states would determine the generalizability of the system in other organizational patterns. Also suggested was that the system be tried out in community college programs of vocational-technical education and under other leadership, such as a state department of education or a research coordinating unit.

A manual, *Evaluation of Local Vocational Education Programs, A Manual for Administrators, Teachers, and Citizens,* was published in a second edition in order to include ideas tried out and found to be successful during this project. Appendices to the study include capsule descriptions of local projects, a project staff study entitled "The Role of the Consultant in Evaluation of Local Vocational Education Programs" and another titled "An Example of the Use of a Vocational Education Information Inventory."

NEXT MONTH . . . *Research Visibility* will present important aspects of the National Conference on Research held at Oklahoma State University in April 1969, and of the *Research Handbook for Vocational-Technical Education* which was derived from the presentations at the conference. Guest editor will be Dr. William Stevenson, director of the Research Coordinating Unit at Oklahoma State.

Program Analysis Questionnaire for Vo-Tec Education

Program Analysis Questionnaire for Vocational and Technical Education. Rhode Island Department of Education, Division of Vocational-Technical Education, Providence, R. I.

The rapidity of expansion of vocational-technical programs in Rhode Island resulted in a need for a means of evaluating these programs in order to make them more responsive to student needs. *The Program Analysis Questionnaire* is an instrument for analyzing all aspects of the vocational-technical program.

The questionnaire was developed by the Division of Vocational-Technical Education of the Rhode Island State Department of Education, through review of existing evaluative instruments, consultation with regional and federal offices of education, and contact with universities doing research in program evaluation. Guidelines for format and content of the questionnaire were consolidated from materials in use in several other states.

The questionnaire is divided into four major sections: administration and guidance, curriculum, physical facilities, and instruction. A three-dimensional approach to evaluation including "(a) self-analysis by local school administration and vocational-technical school staff, (b) analysis by evaluation team, and (c) analysis by industry representatives," was established.

In conducting an evaluation, the associate commissioner of vocational-technical education first identifies the particular program to be evaluated and names an evaluation team of Department of Education staff members. The team consists of a team leader, specialists in vocational guidance, curriculum and facilities, an area school coordinator from a school district other than the one being evaluated, and an academic educational specialist.

The local superintendent is informed of the purpose and procedures of the evaluation, and orientation and distribution of the evaluation instrument are carried out for local school personnel. Completed questionnaires are returned to the Vocational Division Office where they are tabulated and analyzed along with questionnaires completed by industry representatives for each occupational area and those completed by members of the evaluation team. Findings are reported to a local advisory committee and local school personnel, a final evaluation report is written, and recommendations are followed up.

Curriculum Materials

The Curriculum Section of the Division of Vocational and Technical Education, U.S. Office of Education, has compiled listings of curriculum materials which are available from States for each specialized area of vocational-technical education. Listings are available for Agricultural Education, Distributive Education, Health Occupations, Home Economics, Office Occupations, Technical Education, and Trade and Industrial Education.

In addition, an addendum covering all services and a list of instructions for ordering these curriculum materials are available. To order one or all of these listings, write to Mr. William Berndt, Curriculum Section, Division of Vocational and Technical Education, U.S. Office of Education, Washington, D.C. 20202.

The Teacher's Role

Vocational Programs in the Public Schools: The Role of the Teacher. Eleanor P. Godfrey. Bureau of Social Science Research, Inc., Washington, D.C. February 1969.

This report presents the major findings of a nationwide survey of 249 secondary and post-secondary schools, including comprehensive high schools, vocational high schools, vocational-technical centers, and junior or community colleges. Responses were received from 11,649 administrators, counselors and teachers. According to the report, "a major purpose of the study was to compare the backgrounds, training, and satisfaction with teaching of secondary and post-secondary academic and vocational teachers." In addition, the opinions of teachers, counselors and administrators were sought on various educational issues.

Separate questionnaires were administered to administrators, faculty and counselors. (Copies of these questionnaires are appended to the report.) Topics covered included the areas of school setting, teacher background and training, and teacher opinions.

Analysis of the school setting included a survey of course offerings. The major difference between offerings at the secondary and the post-secondary level was the increased variety of offerings at the post-secondary level. Secondary schools typically offered between three and five major programs, while a large junior college would offer six programs, including two (college transfer and health occupations) which are not found in secondary schools.

Enrollment patterns, the presence of work programs, and predictions of educational progression of students are discussed in the report. Regarding faculty requirements and inducements, it was found that the usual minimum educational requirement is a B.A. degree, and that recruitment and maintenance of an able faculty would be facilitated by better working conditions, facilities, and the ability to offer "merit pay."

Data gathered from responses to questions regarding teacher background and training indicate that most teachers have a B.A. degree and are continuing to upgrade this with inservice training and graduate-level courses. Although the median vocational instructor has five to nine years of full-time outside employment experience, the most frequent response to this question was that of no outside employment experience. Vocational teachers generally have fewer students per class, and fewer nonteaching duties. Most teachers expressed satisfaction with their roles as classroom teachers, with the major dissatisfactions being lack of planning time and poor administration.

Teacher opinions were polled on subjects of personal autonomy, adequacy of school services, curriculum emphases, and nine controversial policy issues in education.

An analysis of questionnaire responses was also made by type of school. In regard to the adequacy of the secondary curriculum, responses were very consistent in rating the major function of the school as above average, and the secondary function of the school as average. For example, respondents from comprehensive schools listed the academic program as above average, and the vocational program as average. The reverse was true of the vocational schools.

Post-secondary personnel in technical institutions rated their vocational program the same as the personnel from the secondary vocational schools—above average. However, this was not true for the vocational placement services, which received only an average rating, and a below average rating from 35 percent of the teachers. Ratings for junior college programs were good for both types of programs (terminal and transfer).

Curricular changes suggested for high schools would make the two programs, vocational and academic, more similar by adding more mathematics and science to the vocational curriculum and more mathematics and vocational training to the college preparatory curriculum.

Implications for policy change of the data gathered in this survey included the idea that further examination should be given the recommendation that "high schools should move toward a dual purpose in general curriculum." Changes which respondents suggested should be made in high school curricula and junior college degree programs "imply that all of the traditional requirements, particularly those instituted at the behest of the senior college, may not be necessary."

Further investigation should be made into the low ratings which were given student counseling and placement services. The respondents indicated that these services in their schools "have done a better job of meeting the demands of the labor market and of the colleges rather than the needs of the students."

Because most respondents stated that "the vocational major can make it in college, particularly if the standards for the academic component of the high school vocational program are raised," investigation should be made of revision of the high school program along a new curricular pattern. It is suggested that if this type of change were made, then *"formal* specialized occupational training would necessarily become the responsibility of the post-secondary institution."

A System for State Evaluation

A System for State Evaluation of Vocational Education. Harold Starr. The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. August 1969.

Presented in this report is an interim model for planning, monitoring, evaluating, and redirecting programs of vocational education. The model is derived from an as yet incomplete project, "The Development of a Model To Evaluate State Programs of Vocational Education." It has been presented prior to the completion of the major project so that it may be available in time for use by state staffs preparing plans and evaluation systems in response to federal requirements.

After careful consideration of two existent methods of evaluation, "traditional process evaluation" and "all-

inclusive data banks," it was decided that neither of these processes could supply the data which initial investigations had determined to be necessary for evaluation in the "current operating situation of the states." It had been determined that the need was for a system which would provide not only information for annual and long-range planning and redirecting of efforts, but that it must provide the accountability required by state and federal governments.

This system, therefore, was designed to provide "information essential for planning and for redirecting the programmatic efforts of state vocational education agencies . . ." and to " . . . provide decision-makers with information essential to the development of annual and long-range program plans."

A systems approach was taken in planning of the program, which required that: "(1) the evaluation problem be defined in terms of the purposes and expected outcomes of programs; (2) an information (measurement) system be formulated to provide the particular data required for evaluative decisions about program outcomes; (3) feedback mechanisms be provided to permit monitoring of the effectiveness and efficiency of the information system in providing significant data for decisionmaking; (4) an interpretive system be formulated by which information is analyzed and presented to decisionmakers in a format which facilitates decisionmaking; and (5) since the evaluation system is only one part of a total program-planning system, the evaluation system be capable of articulation with other components (PPBS, for example) of a larger program-planning system."

The first phase of the project consisted of the design of the model system and its field testing. First, the model system was conceptualized, with the major uses for the system being defined and a system being organized which would accomplish these purposes. Then, state agency program objectives and goals were formulated and "quantitative program goal statements which are used to assess achievement of the program objectives" were identified. Data which would be needed to determine success of a program were specified, and procedures for using evaluation results in developing program plans were developed. The model system was then field tested in states which were cooperating on the project.

After assessment of the field test results, a second phase was initiated in which a revised data system was formulated. This data system incorporated seven data-collection instruments, six of which are used to collect data from local sources. Among these instruments are a vocational program status form, a school information inventory, a specific program information data form for secondary and post-secondary instructional programs, a specific program information data form for adult instructional programs, and a data form in two parts used to obtain student characteristic data. The seventh instrument is used at the state agency level, and it is a collection of state division of vocational education evaluation and planning data.

These instruments were pilot tested, with the final testing being completed in December 1969. Following this pilot test a final evaluation model will be produced at The Center for Vocational and Technical Education and will be available for dissemination to potential users.

Volunteer Industry-Education Advisory Committees

Utilization of Volunteer Industry-Education Advisory Committees for Evaluating a State Vocational-Technical Education System. Samuel M. Burt, The W.E. Upjohn Institute for Employment Research, Washington, D.C. 1969.

This paper presents an outline and a criticism of the strategy and procedures adopted for one phase of a project conducted jointly by the State Department of Education of Arkansas, The Industrial Research and Extension Center of the University of Arkansas, and the Upjohn Institute under a grant from the U.S. Office of Education.

The project involved business, industrial, community and state leaders and decisionmakers in a process of "assessing the status and plans of the vocational-technical education system of the State vis-a-vis its economic development plans," and the phase studied in this paper is that of "dealing with the evaluation of the vocational-technical education system of the State by the advisory committees."

Eight Regional Advisory Councils comprised of representatives of industry and business (including community leaders, legislators and educators) were organized for the purpose of conducting school program evaluations and making related recommendations regarding economic development needs and plans. In addition, a State Manpower Advisory Council for Economic Development was organized for coordination of the work of the Regional Councils.

In order to provide Regional Advisory Council members with background information of the State vocational and technical education system, four papers were prepared for them by the project staff: "A Look at Arkansas High Schools and Their Occupation Education Programs," "A Look at Private Trade and Business Schools in Arkansas," "Industrial Plant Site Location and Vocational Schools and Programs," and "An Overview of Arkansas Student Enrollments, Course Completions and Expenditures for Federally Reimbursed Vocational Education Programs." A fifth paper, "Enrollments, Income, Expenditures and Programs: Area Vocational-Technical Schools in Arkansas," was presented and discussed at Regional Council meetings. The findings of these papers were translated in terms of the programs and problems of schools in the region of each particular advisory council.

Several meetings were held by the Regional Advisory Councils for review of findings, progress reports and preparation of recommendations relative to their region. A final report of recommendations was prepared for submission to the State Council. A final report was also prepared by the State Council and presented to the State Board of Vocational Education, with the expectation that the recommendations in the report would be given first priority by the State Board, the State Department of Education, the Governor's Office, and the State Advisory Council for Vocational Education.

The use of volunteer businessmen as an evaluative force for vocational-

technical education was demonstrated to be feasible by this project. With the assistance and guidance from the background papers and other materials provided by the project staff, workable solutions were obtained for some of the problems facing vocational-technical education in the community. It now remains to be seen whether or not these groups can continue in their work toward having their recommendations implemented.

Student Teaching in Home Ec

The Evaluation of Student Teaching in Home Economics: Final Report. Helen Y. Nelson and Joan Gritzmacher. New York State College of Home Economics, Cornell University, Ithaca, N.Y. May 1967.

The "critical incident technique" was used in this study to determine the performances resulting in effective or ineffective student teaching behavior and to construct a scale for evaluation of student teaching performance. The scope of this study was limited to student teachers in home economics, and cooperation was obtained from teachers, college supervisors and student teachers in 20 institutions from a number of states.

These groups submitted 563 critical incidents, of which 550 were usable. From these 550 incidents, 958 specific behaviors were obtained. The critical behaviors were constructed into a 112-item rating scale which was administered at the end of the student teaching period to students, teachers and supervisors. An opinionnaire sent along with the rating scales indicated respondents felt that this rating scale was better than the one they were presently using, and that it took less time to use.

It was concluded that the project had developed "a valid, reliable and useful rating scale . . . for the evaluation of student teaching in home economics." According to the report, this method could be successfully adopted for other fields and for other purposes.

Suggestions for further study in this area include that of training raters in use of the scale to promote uniformity in rating and to develop a rating scale whereby pupils may rate the student teachers. Also, the scale might be used in evaluating the performance of first-year teachers.

Copies of the rating scales used in this study and the opinionnaires which accompanied them are included in the appendices to this report. There is also a page of information which it has been suggested should accompany the rating scale in future use.

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plain talk

George L. Brandon, Editor, Research Visibility

Fun at acronym making? "Alphabet soup," a term which has been with us for several generations and which makes up a glossary of its own, particularly of governmental agencies and various projects, has its personal appeal and challenge as a gaming device, at least to the bureaucratic in soul. The Advisory Committee for Research Visibility numbers among its membership at least one person of the research bureaucracy nature who, after lengthy nonscientific study of the *RV* masthead which has traditionally stated its mission as SYNTHESIS / APPLICATION / DISSEMINATION, arrived at the brutal conclusion and accusation that according to his acronym *Research Visibility* is SAD.

Happily, the construction and deep insight which resulted in the accusing SAD acronym, and the acronym itself, were not shared by the committee other than through the humorous incident it provided during the review and appraisal of *RV* progress. Editorial policy insists that we share the anecdote with our readership; the name of coiner of the SAD acronym will never be revealed unless more appropriate punishment cannot be determined.

The "alphabet soup" incident does have its more serious side. What has been achieved by the "yellow pages" over their short history? What will be more successful in meeting the needs of the majority of AV JOURNAL readers which are related to research and development? What should be the target of the potential of readership as the AV JOURNAL is currently distributed to more than 52,000 readers? The Advisory Committee had many suggestions, too many to use and implement. These were shared with *RV* readers in a previous "Plain Talk" section. The prevailing suggestion that *RV* should zero in on the *synthesis* idea has come up for continued examination with a great deal of enthusiasm and expectancy.

Research synthesis and interpretation as new missions. In the minds of a working committee including a few members of the *RV* Advisory Committee (Aaron J. Miller of The Center for Vocational and Technical Education at The Ohio State University and Sidney High of the U.S. Office of Education), research results should be summarized and interpreted; interpretations should point the way for desirable changes to be made for more effective programs of vocational and technical education at all levels.

If all of this is possible (and there is a great deal of academic argument that it is neither posssible nor particularly desirable as viewed by various antagonists) there is an underlying assumption that in the first place practitioners are sensitive to change and their practices amenable to alteration. Hosted by Robert Taylor, director of the Center, with the generous assistance of Center staff Joel Magisos and Celianna Taylor, and William Stevenson of Oklahoma State University's Research Coordinating Unit, the working group drafted the dimensions of a new design for *RV* of the future.

The target group, then, is the teacher-practitioner readership of the profession, the over-riding majority of the AVA membership. Research and development results should be summarized and interpreted for their consideration and implementation. Essentially this fact assumes that a high degree of relationship will exist between the nature of the research which is investigated and

the realism of front-line operating problems in teaching and conduct of local programs.

Obviously, more communication and a more effective dialogue between practitioner and research-interpreter will have to be cultivated and maintained. The design of the new *RV* format will attempt to overcome problems of this nature and many others. Notwithstanding the difficulty of making *RV* reporting more functional in its "yellow pages" of the future, the still more difficult task of sampling and ascertaining readership interests will be confronted with new vigor.

No doubt, the *RV* editor's enthusiasm could be dampened by visions of a management monstrosity in the midst of the synthesis-interpretation syndrome, but the many desirable results of research utilization including program change and maximum benefit to vocational youths and adults dispel management problems, real and imaginary.

Do not expect the synthesis idea to show up in final form, subject to design and grantsmanship, before the September 1970 issue. But if you like the idea, or if you think it a total waste of time, paper and ink, let us have your reactions. You are the reader, it is your journal, and your ideas are solicited. If, even humorously, there is an element of SADness in *Research Visibility*, let's make it more functional—or get a new acronym.

Selected "must read" evaluation literature. The printing presses of the nation work overtime in producing the literature of evaluation including the analysis, philosophy and research related to it. The following might comprise a "best seller" list.

—National Society for the Study of Education. *Educational Evaluation: New Roles, New Means.* Ralph W. Tyler, Editor. Chicago: 5835 Kimbark Ave., 60637.

—W. E. Upjohn Institute for Employment Research. *Available pamphlets.* Washington, D.C.: 1101-17th St., N.W., 20036 (free)

—Educational Research Service. *Evaluating Teacher Performance.* Washington, D.C.: ERS, 1201 16th St., N.W., 20036. $1.50.

—American Educational Research Association, *Curriculum Evaluation Monograph Series:*

*1. Perspectives of Curriculum Evaluation
*2. Evaluation Activities of Curriculum Projects: A Starting Point
*3. Instructional Objectives
4. Research Strategies for Evaluating Training
5. Evaluation as a Tool in Curriculum Development: The IPI Evaluation Program

*Available now from Rand-McNally and Co., P.O. Box 7600, Skokie, Ill., 60680. Price: $2.00 (AERA membership discount: 30%)

bibliography

STUDIES REPORTED IN THIS ISSUE

Topic One: Accreditation

"Accreditation of Vocational-Technical Curricula in Postsecondary Institutions." Lloyd E. Messersmith and Leland L. Medsker. The Center for Research and Development in Higher Education. University of California, Berkeley. 1969. 121 pages. (ERIC # ED 030 750. HC: $7.20, MF: 75¢. Also available from Publications Dept., The Center for Research and Development in Higher Education, 1947 Center Street, Berkeley, Calif. 94720. Price: $2.00.)

Topic Two: Program Evaluation
. . . in Vocational Agriculture

"Evaluation of the Effectiveness of Using Specialized Instructors in Providing Occupational Training for Industrial Jobs for High School Vocational Agriculture Students." Roy W. Roberts. University of Arkansas, Fayetteville. 1965. 57 pages. (ERIC # ED 003 101. HC: $2.60, MF: 50¢.)

. . . in Business Education

"The Status of Cooperative Office Education Programs in Michigan 1967-1968." Elaine Uthe and Betty Schroeder. Department of Secondary Education and Curriculum, College of Education, Michigan State University, East Lansing, Mich. April 1969. 36 pages. (ERIC # ED 030 725. HC: $1.90, MF: 25¢.)

"A Study of the Effectiveness of Summer Data Processing Institutes for Business Teachers." Lewis E. Wall. College of Business, Colorado State University, Fort Collins, Colo. Aug. 31, 1967. 141 pages. (ERIC # ED 016 861. HC: $5.72, MF: 75¢.)

. . . in Manpower Training

"The AMIDS Program: An Appraisal of the First Six Months. Comprehensive Report 1969." William A. Broadbent and Bruce A. Reinhart. Division of Vocational Education, University of California, Los Angeles. 1969. (A limited number of copies of this report may be available from Dr. Richard Nelson, California State Department of Education, Bureau of Industrial Education, 721 Capitol Mall, Sacramento, Calif. 95814.)

"Benefit-Cost Analysis of TAT Phase I Worker Training." Frederick C. Kirby and Paul A. Castagna, Department of Economics, University of Tennessee. July 1969. 33 pages. (Single copies may be obtained free from Training & Technology Project, P.O. Box 117, Oak Ridge, Tenn. 37830. See March, 1970 issue of RIE for ERIC #.)

. . . in Trade and Industrial Education

"Development and Utilization of a National Vocational-Technical School Achievement Testing Program Using the Printing Trades as a Pilot Area." Dennis McFadden. Ohio Trade and Industrial Education Service, Division of Vocational Education, Columbus, Ohio. August 1967. 132 pages. (ERIC # ED 016 850. HC: $5.36, MF: 75¢.)

"The Training of Tool and Die Makers." Morris A. Horowitz and Irwin L. Herrn stadt. Department of Economics, Northeastern University, Boston, Mass. September 1969. 424 pages. (CFSTI # PB 187 558.)

Topic Three: Local Evaluations

"A Cost-Effectiveness Study of Vocational Education: A Comparison of Vocational and Non-vocational Education in Secondary Schools." Ernst W. Stromsdorfer, *et al.* Institute for Research on Human Resources, The Pennsylvania State University, University Park, Pa. March 1969. 302 pages. (Available from the Institute for Research on Human Resources, The Pennsylvania State University, Boucke Bldg., University Park, Pa. 16802. Price: $5.00.)

"Evaluation Systems for Local Programs of Vocational-Technical Education." Harold M. Byram. Michigan State University, East Lansing, Mich. October 1968. 119 pages. (ERIC # ED 029 999. HC: $6.05, MF: 50¢.)

"Program Analysis Questionnaire for Vocational and Technical Education." Rhode Island Department of Education, Division of Vocational-Technical Educa-

tion, Providence. 40 pages. (ERIC # ED 029 969. HC: $2.10, MF: 25¢.)

Topic Four: Other Studies

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DOCUMENT SOURCES

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

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